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Growing Table Beets.

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Growing Table Beets

Table, or garden, beets are grown in a wide range of soils and climates. Since beets produce their best color and quality in a cool climate, they are grown in the southern third of the United States as fall, winter, and spring crops; in the middle third as early summer or late fall crops; and in the northern third as summer and early fall crops.

SOILS

Table beets are grown in a variety of soils such as mucks, sands, sandy loams, and silt loams. It is generally difficult to get good stands on soils that have high clay content or those that pack or crust after a sprinkling or a rain. Early crops require sandy loam soils that warm up quickly in the spring. Heavier and more compact soils, as clay loams, are satisfactory for late spring or fall crops.

For best results, the soil should be deep, well-drained, friable, and adequately supplied with organic matter. Green manure crops, crop residues, animal manures, or composts—which ever is most practical—should be used to maintain soil fertility.

FERTILIZERS AND LIME

The land and amount of commercial fertilizer needed will depend on the soil type, natural fertility, and the

amount of fertilizer applied to previous crops.

In general, truck gardens require up to 2,000 pounds per acre and home gardens require up to $4\frac{1}{2}$ pounds per 100 square feet. The mixture of fertilizer normally recommended contains 10 percent of nitrogen, of phosphoric acid, and of potash. On soils low in potash, 8-16-16 or 5-10-30 may be used.

In large scale plantings, broadcast muriate of potash (0-0-60) to correct potash deficiencies. On muck soils, use a high-potash, low-nitrogen fertilizer.

When a truck garden is about half grown, a topdressing of up to 150 pounds per acre of ammonium nitrate (or equivalent) may be used. For home gardens, use from $\frac{1}{2}$ to 1 pound for each 100 feet of row. Internal blackspot of beets can be controlled by application of boron to the soil.

Beets grow best at a soil acidity from pH 6.0 to 6.8 but will tolerate neutral soils; and in some districts, alkaline soils.

Soil acidity should be determined by an accurate soil test. If necessary, use ground limestone to lower the acidity (raise pH value). Many States maintain soil testing services. Check with your county agricultural agent for instructions on how to take soil samples and where to send them for testing.

VARIETIES

Beets are classified according to the shape of the root and the time of maturing. For example, Crosby's Egyptian, Green Top Bunching, Ruby Queen, and Early Wonder are flat or globular early maturing varieties. Detroit Dark Red, and Perfected Detroit are globular and medium early maturing varieties. Long Dark Blood, or Long Smooth Blood are late-maturing varieties.

The roots of most beets are dark red or purplish. However, when beets are grown in hot weather, the roots may develop light-colored zones. In cool weather, these zones are less conspicuous. The light-colored zones tend to disappear when the beets are cooked. Sugar content in the root is highest when beets are grown in cool temperatures and good sunlight.

Crosby Egyptian and Early Wonder varieties are generally recommended when rapid growth to market-size is desired.

Both are slightly flattened and have alternate zones of purplish flesh in warm weather. Plantings that reach harvest stage in cool weather have darker flesh and less prominent differences in color zones.

For processing and where quick maturity is not important, Detroit Dark Red, Perfected Detroit, Ruby Queen, and Red Pak are most commonly grown. Certain varieties, such as Crosby Green Top, are grown for beet greens, but other varieties can be used if harvested at the proper time.

Monogerm varieties with superior quality and uniformity have recently been developed. Examples of monogerm varieties are Pacemaker, Mono-King, Explorer, and Monogerm.

PLANTING AND CULTURE

Young beet seedlings are tender. To help them become established, work the soil into a friable condition free of trash, clods, and surface irregularities before planting.

Cover the seed 1 inch in sandy soils, about $\frac{3}{4}$ inch in sandy loams, and not deeper than $\frac{1}{2}$ inch in finer textured soils. It is important that the cover depth is both uniform and correct to assure even germination.

For home gardens worked by hand, rows may be as close as 12 inches; for commercial plantings, they are normally 18 to 24 inches apart.

For drainage or irrigation purposes, plant beets on formed beds in paired rows that are 40 inches apart from center. Sow seeds at the rate of 5 to 6 per foot of row, 10 to 12 pounds per acre, or 1 ounce for 100 feet of row. If beets are grown for processing, increase seedling rate to 14 to 16 pounds of seed per acre.

When multigerm seed is used, remove excess plants to avoid crowding. Thin the seedlings when they are large enough to be handled but before they greatly exceed 2 inches in height. Later thinning may cause damage. Three to four plants per foot of row should be left upon final thinning.

To achieve uniform stands and an earlier crop, home gardeners should sow 4 or 5 seeds per inch in rows 3 inches apart. Transplant the seedlings 3 inches apart in the row when they are 2 to 3 inches high.

Beets may be planted from 3 to 4

For specific information on growing beets in your area, consult your county agricultural agent.

weeks before the average date of the last killing spring frost to 6 weeks before the average date of the first autumn frost except during very hot weather.

Beet seeds will germinate at soil temperatures from 40° to 85°F, with the optimum being 65° to 75°F.

WEEDS

Mechanical cultivation can control weeds between the beet rows, but herbicides are needed to control weeds in the rows.

Herbicides registered for use in planting table beets include cycloate and pyrazon. Cycloate is effective against annual grasses and should be applied before the beets and weeds emerge. Pyrazon will control many broadleaf weeds when used before emergence of beets and weeds.

State experiment station weed specialists can provide specific information on the herbicides to be used in their areas. Be sure to read and follow the label carefully.

Herbicides are not generally recommended for use in home gardens because of the difficulty in correctly treating small areas. Hand weeding and hoeing are usually adequate in small garden areas.

PEST CONTROL

The nature and severity of pests of table beets varies with growing areas. For this reason only general suggestions for pest control are made. Consult your county agricultural agent for more specific information. Read and follow the directions for use and the precautions indicated on the label of the pesticide to be used.



Thin beets so they are spaced 3 inches apart in the row.

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Leaf miners and aphids are the most common insect pests of beets; but webworms, flea beetles, and others may cause extensive damage to the crop.

Check frequently for insects and start control measures before damage occurs.

Aphids and leaf miners may be controlled with diazinon; flea beetles with carbaryl; and webworms with pyrethrins.

Cercospora leaf spot, the most common disease of beets, is identified by circular spots with reddish brown or purplish margins. The infected area later turns gray and drops out, giving the leaf a spothole appearance. Crop rotation, sanitation, and the use of fungicides, such as captan, control this disease.

Damping-off and seed rot can be reduced by seed treatment with captan or thiram.

HARVESTING AND HANDLING

When grown for fresh market, beets are usually harvested when $1\frac{3}{4}$ to 2 inches in diameter.

Prepare beets for market immediately after they are pulled from the soil. If bunched, grade them by putting only beets of similar size and appearance together in a bunch. Remove dead or damaged leaves while bunching.

Put the bunches into field boxes and take them promptly to the packing-house or shipping point. There, they can be washed thoroughly in clean water for shipment. Beets can also be topped and sold in perforated polyethylene bags.

STORAGE

Beets maturing in the late fall can be stored in cold, moist root cellars as long as 3 to 5 months. The plants will stand frost and mild freezing, but they must be removed from the field before hard freezing occurs.

For long storage, clip the tops close to the roots and sort out all diseased or decaying matter. Slatted crates or baskets are good containers; large bins are not.

The storage space should have a relative humidity of 95 to 98 percent to prevent excessive shrinkage. Keep the temperature as near to 32°F as possible; take care not to freeze the roots. Under these conditions, bunched beets with tops may be stored for 10 to 15 days. Higher temperatures shorten storage life and reduce quality.

Commercial storage at 32°F with a humidity of 95 percent is satisfactory.



An example of poor quality beets.

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USE OF PESTICIDES

Pesticide use is governed by a federal law which is administered by the Environmental Protection Agency. This law requires manufacturers to register pesticides, and makes it illegal for people to use them except in accordance with the instructions on the label.

You may, if you wish, use *less* of any pesticide than the maximum amount the instructions permit. However, always remember: 1) Be sure the pesticide comes in contact **ONLY** with plants or areas you intend to spray; and 2) Be sure to spray the pesticides uniformly. You can always get reliable, free information about any pesticide by calling your Cooperative Extension Service, your State agricultural experiment station, or your county agent.

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